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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/578,240	<b>Applicant(s)</b> KIM, YOUNG-SOO	
	<b>Examiner</b> CAL EUSTAQUIO	<b>Art Unit</b> 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/23/2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### Claim Status

1. **Claims 1-6** are presented for examination.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. **Claims 1 and 6** are rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424.

- a) **As to claim 1**, Herweck discloses the claimed: A remote-controllable time-based power control apparatus, comprising: a remote controller (1) provided with keys to set an operating time of an electronic appliance and to wirelessly transmit setting information for the operating time to control means (3) connected to a plug (2) [(Fig. 1, remote 20 uses code as shown in col 3, lines 15-26, col 5, lines 49-57, and col. 6, lines 50-67, which meets the claimed "wirelessly transmit setting information." The plug connection is shown in FIG. 2 as either 62 or 50. Included as part of the recitation is the control of *television viewing*, as shown in col. 1, lines 20-30)]; the plug (2) for supplying a power to the electronic appliance (see above); and the control means (3) including a wireless transmitting unit (31) and a wireless receiving unit (32) for communicating wireless data with the remote controller (1) [(FIG. 1, remote 20 and receiver rx 12)], a memory (35) for storing therein registered code information of the remote controller (1) [(col 3, lines 15-26 discloses using code while lines 47-57 discloses using two position switches to memorize user selected code sequences. The switches are a rudimentary form of memory. The codes are used to confirm the identity of a user using the above remote 20 and upon verification, controls the power circuit line as disclosed in col. 3, lines 5-12)].
- i. Except for the claimed:
- 1) to set an operating time of an electronic appliance to transmit setting information for the operating time to control means (3); preset operating time information transmitted from the remote controller (1); and, a clock generating unit (36) for generating clock signals at regular periods,

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- 2) the remote controller (1) including a display unit (12) and a signal tone generating unit (13) for visually and aurally informing a user of power control information transmitted from the control means (3);
- 3) a direct current (DC) power unit (38) for converting an alternating current (AC) power input to the plug (2) into a Direct Current (DC) power and supplying the DC power as an internal drive power,
- 4) a power control unit (40) for controlling a transistor (Q1) to be turned on/off in response to the control signal output from the second MPU (42), and the transistor (Q1) turned on/off in response to a control signal output from the power control unit (40) to turn off a relay switch (41) connected to a power line at one end of the plug (2),
- 5) the control means (3) controlling the electronic appliance to be automatically turned off after the electronic appliance has been operated for the preset operating time transmitted from the remote controller (1).

ii. **As to the claimed:** to set an operating time of an electronic appliance to transmit setting information for the operating time to control means (3), Herweck discloses *controlling the on and off state or power to a device* (such as a television disclosed above) depending on the verification of a set of codes located in a remote control designed to control power to that particular device. Furthermore, Herweck, col. 1, lines 20-30, suggests that the device previously disclosed above that parents control children's television viewing. Herweck does not disclose setting the operating time of an electronic appliance to a control means:

1) In the same art of power controlling systems, Kwoh, in the Abstract, and col 3, lines 45-55 and col 4, lines 50-67, like Herweck, discloses controlling children's viewing of television programming. In particular, Kwoh discloses that the time/channel programming circuit may be used to exclude program channels, dates, times of programming or when the *TV receiver is not available for use* (emphasis added). FIG. 1 and col. 8, lines 29-30, discloses a user programming a series of settings using a remote 12, including current real time, into a VCR. Furthermore, FIG.1 and col. 5, lines 4-35 discloses a VCR keeping track of dates and times. Upon acceptance of an allowable date and time received through a previously programmed schedule received through a command controller 36, a switch circuit is activated to allow a television to cooperate with a VCR to show televised programming, thereby teaching the known concept of using a set time controlled activation of device functions to suit the desired wants and needs of the user.

2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the remote power control switch feature of Herweck the clocked programming features disclosed in Kwoh to produce a remote controlling device that includes the capability of controlling a load based on time requirements. Herweck discloses a known feature of a children's television control device which could and would benefit from incorporating a well known feature of controlling a children's television control device which includes programming time frames of availability as taught by Kwoh. Because the two references solve the problem of controlling television availability but in different but known ways, it

would have been obvious to one of ordinary skill in the art at the time of the claimed invention to include into Herweck the known feature of denying television programming to children by restricting certain programming times to produce a combination that upon the combination device reaching a predetermined time, the power to the television will shut off. Because these are known alternative embodiments solving the same problem of controlling television availability to children, one of ordinary skill would have a likelihood of success in combining these known features into the above combination making obvious the claim limitations.

- iii. **As to the claimed:** the remote controller (1) comprising a display unit (12) and a signal tone generating unit (13) for visually and aurally informing a user of power control information transmitted from the control means (3); the plug (2) for supplying a power to the electronic appliance; and preset operating time information transmitted from the remote controller (1); Herweck, col. 7, lines 7-18, discloses a *receiving unit* including an LED or other visible indicator to show a user the on and off status of the power controller as the controller manages loads as previously disclosed above.

Herweck doesn't disclose visible and audio indicators used at the remote itself.

- 1) In the same art of remote power controllers, Kwoh, col 9, lines 1-12, discloses a *remote controller* 1100, col 8, lines 8-12, cooperating with a VCR and controller system. Included in the remote are usages of audio prompts and displays to signal to a user when certain functions are being processed within the programmer.

2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the remote control disclosed in Herweck the visual and audio prompts of the remote control disclosed in Kwoh to produce a remote control capable of displaying and sounding a prompt in a manner claimed in the invention. Such a device gives the user flexibility in determining locally or remotely if a power control action has taken place without being collated next to the device being controlled.

iv. **As to the claimed**, a clock generating unit (36) for generating clock signals at regular periods, Herweck doesn't disclose this feature,

1) In the same art of remote controllable devices, Kwoh discloses as above, a VCR receiving programming information regarding programs that may be shown at a specific time. Furthermore, Kwoh, col 4, lines 56-60, col. 5, lines 15, and Fig. 3, discloses a clock 42 used to synchronize date and time information to allow processing of time and programming schedules when the time coincides with a proper preset time.

2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to combine the power controller disclosed in Herweck with the embodiment utilizing an internal clock, as disclosed in Kwoh, to produce a remote power controller that includes the known use of a clock function. By allowing these features to combine, a controller can turn on a device at a specified time and upon expiration of that time, shut the device off. Such a feature allows



synchronization between a transmitting station and a receiving station when programming is communicated between one point to another.

- v. **As to the claimed** a direct current (DC) power unit (38) for converting an alternating current (AC) power input to the plug (2) into a Direct Current (DC) power and supplying the DC power as an internal drive power, Herweck, in col 5, lines 40-43, *while not exactly disclosing the conversion of AC to DC*, Herweck discloses the use of batteries and the use of replacing of batteries, suggesting that the internal circuitry within Herweck's disclosure operates on DC or direct current. Furthermore, Herweck discloses that power from the line cord is used to power the on-board circuitry as opposed to batteries.

1) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include a feature of converting AC to DC and utilizing this feature in the disclosed circuitry of Herweck. Such a system, as disclosed above in Herweck, disposes the need for changing out batteries which if otherwise needed, would incur unnecessary costs.

- vi. **As to the claimed** the control means (3) controlling the electronic appliance to be automatically turned off after the electronic appliance is operated for the preset operating time transmitted from the remote controller (1). See v. above.
- vii. **As to the claimed**, an MPU (42) for performing real-time counting using the clock signals generated by the clock generating unit (36) and outputting a control signal to shut off the power when a counted value is identical with the preset operating time transmitted from the remote controller (1) and stored in the memory (35), *whether the*

*counted value is identical with the preset operating time transmitted from the remote controller begin determined by comparing the counted value with the preset operating time*, Herweck, col 3, lines 58-66, discloses a rudimentary logic circuit that responds to an external remote coded signal that acts as a simple processing circuit. However, Herweck does not disclose an MPU. In the same art of remote controllable devices, Kwoh, Fig. 3 and col 4, lines 50-55, discloses a micro-processing means which provides the remote control system with different sets of controls with at least one processor 50 used to perform parental controls, including allowing programming to be viewed at a specific time. Further included in FIG. 4 is a clock 42. Col 5, lines 15-29 discloses that clock 42 is utilized with a time/channel programming circuit 40 and command controller 36 to control input to a TV. The cooperation selective activates or precludes inputs to the television. The clock found in Kwoh continues to change in time until the clock's time matches the programmed time. This operation meets the claimed "counted value" being "identical to the present operate time" previously disclosed.

- 1) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into Herweck the microprocessor means and clocked control function as disclosed in Kwoh to meet the claimed limitations of comparing a preset operating time with a counted value to shut off power. The use of programmed timing devices and counters to enable and disable programming is not new in the art and it would have been obvious for one of ordinary skill in the art to include these known features found in related art solving the same problem into

the above combination. Instead of a parent denying the children the ability to watch prohibited programming at a specific time by denying signals to be fed to the television monitor, the parent would have the ability to shut off power to the television monitor at pre-programmed times. This mechanism represents a different alternative embodiment of solving the same problem of restricting children's programming.

viii. **As to the claimed** a power control unit (40) for controlling a transistor (Q1) to be turned on/off in response to the control signal output from the second MPU (42), and the transistor (Q1) turned on/off in response to a control signal output from the power control unit (40) to turn off a relay switch (41) connected to a power line at one end of the plug (2), Herweck discloses, on col. 4, lines 20-29, using relay 39 to enable and disable the line voltages going through 50 but doesn't disclose a transistor driving the relay.

1) In the same art of power controlling devices, Hansen, col.7, lines 22-31 and FIG. 2B, especially at elements Q4 transistor and MR relay, discloses the use of a transistor driving the coil of a relay. The relay serves to couple load voltages to a load.

2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the combination of Herweck and Kwoh the transistor driven relay circuit disclosed in Hansen to produce the claimed invention. Such a circuit has the advantage of using a low voltage and low current control device to drive a higher current and high voltage handling device such as the relay so

more power can be controllable using a small control device while maintaining isolation between the controlled circuit and the controller circuit.

- b) **As to claim 6**, the combination of Herweck, Kwoh, and Hansen discloses the claimed: A remote-controllable time-based power control apparatus, comprising: a remote controller provided with keys to set an operating time of an electronic appliance and to wirelessly transmit setting information for the operating time to control means connected to a plug, the plug supplying power to the electronic appliance; and the control means including a wireless transmitting unit and a wireless receiving unit for communicating wireless data with the remote controller, a clock generating unit for generating clock signals at regular time periods, an MPU for performing real-time counting by counting the clock signals generated by the clock generating unit and for outputting a control signal to shut off the power to the electronic appliance in response to a counted value being identical with a preset operating time transmitted from the remote controller by comparing the counted value with the preset operating time, the control means controlling the electronic appliance to be automatically turned off after the electronic appliance has been operated for the preset operating time transmitted from the remote controller. See rejection of **claim 1**.
4. **Claim 2** is rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424 and James, 6,046,549.
- i. **As to claim 2**, Herweck, as in the combination of Herweck, Kwoh, and Hansen, in **claim 1**, discloses the limitation: “and counts an actual operating time using the clock signals generated by the clock generating unit (36).”

- 1) **Except for the claimed:** The remote-controllable time-based power control apparatus according to **claim 1**, wherein: the control means (3) further comprises a load detecting unit (39) to detect a load due to the operation of the electronic appliance, said control means (3) arranged on an output side of the relay switch (41), and the MPU (42) recognizes that the electronic appliance is operated only when the load detecting unit (39) detects a load. Neither Herweck, Kwoh, nor Hansen discloses these features.
  - 2) In the same art of load control and monitoring, James, col. 5, lines 60-67 and col. 6, lines 1-11, discloses a load control circuit which regulates the loads connected to its circuit. When a load demand is detected in the form of an increased current demand, full voltage is applied to the load.
  - 3) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the combination of Herweck, Kwoh, and Hansen an additional feature of a power controller demand scheme found in James to produce a remote power control system that include the capability of responding to load demands. Such a system would have the advantage of enabling the system only when the load is switch on, which saves power in the event that when the user does not desire to watch scheduled programming.
5. **Claim 3** is rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424, and Hubbard, 6,507,794.
- i. **As to claim 3**, Herweck discloses except for the claimed: the remote-controllable time-based power control apparatus according to **claim 1**, wherein: the control means

(3) further comprises a low voltage detecting unit (37) for detecting an abnormal fluctuation in the power input to the plug (2) and providing the detected results to the MPU (42); and the MPU (42) is reset after storing a value, obtained by counting an actual operating time until a voltage fluctuation signal is input from the low voltage detecting unit (37), in the memory (36), and then continuously counting a remaining operating time on the basis of the operating time counting value stored in the memory (35) after being reset. The combination of Herweck, Kwoh, and Hansen, discloses as in **claim 1**, the use of at least a processing means, which meets the claimed "MPU." However, Herweck, Kwoh, and Hansen does not disclose the claimed "detection of an abnormal power fluctuation" of the voltage applied to the load and "storing a value" while "counting an actual operating time until a voltage fluctuation signal is input from the low voltage detecting unit," and "then continuously counts the remaining operating time."

- 1) In the same art of power monitoring, Hubbard, in col. 2, lines 62-67, and col. 8, lines 1-5, discloses low voltage events being recorded under an embodiment outlined in col. 28, lines 1-32.
- 2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include into the combination of Herweck, Kwoh, and Hansen the low voltage/power quality logging scheme disclosed in Hubbard to produce a system that includes recording an abnormal voltage event present at a load. The claimed "a low voltage detecting unit (37) for detecting an abnormal fluctuation in the power input to the plug (2) and providing the detected results to the second

MPU (42); and the second MPU (42) is reset after storing a value, obtained by counting an actual operating time until a voltage fluctuation signal is input from the low voltage detecting unit (37), in the memory (36), and then continuously counts the remaining operating time on the basis of the operating time counting value stored in the memory (35) after reset” is met because the combination of Herweck, Kwoh, and Hansen disclosed the input of scheduled programming as in **claim 1**, including the determination of times defined in the above combination. The claimed “resetting” is interpreted to be the time the power fluctuation event was sensed and recorded while the operating times recorded before and after the event are the scheduled programming times. Such a system would allow a user to determine, from the recorded event log, power quality or equipment malfunctions or failures related to the power quality event and to take corrective action that would prevent damage from the same.

6. **Claim 4** is rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424 and Hayes et al. U.S. 2002/0140571.
  - a. **As to claim 4**, the combination of Herweck, Kwoh, and Hansen, discloses except for the claimed: The remote-controllable time-based power control apparatus according to **claim 1**, wherein the control means (3) transmits the remaining operating time of the power plug (2) and ON/OFF status information of the power to the remote controller (1) in a wireless manner, thus allowing the user to monitor the information through the display unit (12) of the remote controller (1).

- i. As previously disclosed above in rejection of **claim 1**, in the combination of Herweck, Kwoh, and Hansen, a VCR has received a programming schedule to allow its cooperation with a television to show scheduled televised programs at a requisite time. Furthermore, Kwoh, col 7, lines 34-41, discloses scheduled programming being displayed for viewing for a user. Kwoh, as previously disclosed above in the rejection of **claim 1**, displays to the user the power status. However, neither Herweck, Kwoh, nor Hansen disclose displaying the on/off status or remaining time information transmitted from the control means to the remote control unit. In the same art of remote control devices, Hayes, [0155] and [0174] discloses a remote unit obtaining status information from the remotely controlled device.
  - ii. It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to further include into the combination of Herweck, Kwoh, and Hansen the feature of displaying the status of a controlled device on a display unit found in a remote control as disclosed in Hayes to produce a remote control device that displays to a user the ON/OFF status of the device as well as the scheduled programming (from which a user can derive the remaining operating time of the remotely controlled device). Such a system, when such information is available to a remote control unit, would allow the user the convenience of looking at the remote control display for operational status rather than the user travel to the controlled to ascertain the status of controlled devices.
7. **Claim 5** is rejected under 35 U.S.C 103(a) as being obvious over Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424 and Yoda, U.S. 3,969,886.



- i. **As to claim 5**, Herweck, Kwoh, and Hansen discloses except for the claimed: The remote-controllable time-based power control apparatus according to **claim 1**, wherein the control means (3) transmits a predetermined alarm signal to the remote controller (1) when the remaining operating time is less than a predetermined time, thus outputting an alarm through the signal tone generating unit (13) of the remote controller (1). Although the combination of Herweck, Kwoh, and Hansen discloses, as in **claim 1**, a feature of displaying to a user a programming schedule, the combination fails to disclose a warning or alarm made to a user that a predetermined remaining operating time threshold has been reached.
- 1) In the same art of timed operations, Yoda, col. 7. lines 12-24 and col. 1, lines 6-27, discloses a digital timing circuit which forewarns a user, though the use of an LCD display and audio alarming, such as a bell or buzzer, that a predetermined time has been reached and indicates the remaining time available until a period ends.
- 2) It would have been obvious for one of ordinary skill in the art at the time of the claimed invention to include the feature of a predetermined time warning system, as disclosed in Yoda, and apply this feature to the combination of Herweck, Kwoh, and Hansen which would produce a remote power controller system capable of warning a user when a timed operation is about to end. Such a feature, as disclosed in Yoda above, would allow a user to keep to a schedule by having an advantage of knowing how much time is left to spend towards a timed task.

***Remarks***

8. The Applicant's response, with respect to the rejection(s) of **claim 1** under Herweck, U.S. 5,731,763 in view of Kwoh et al, U.S. 5,382,983 and Hansen, U.S. 4,346,424 have been fully considered and are, in part, persuasive. Therefore, the original rejection has been withdrawn. However, upon further consideration, a revised ground of rejection based on the previous combination has been made to better explain and recite embodiments and features not properly revealed, disclosed, or highlighted in the previous rejection. See above rejections. Furthermore, the Applicant's argument also states that "other cited references are not in the same field nor are they even in a related field." The Applicant's argument includes the statement that "Hansen relates to an electronic remote control DC power control and overload circuit breaker for the cockpit controlled DC power system of an aircraft," and that "...it is submitted that it would not be obvious to combine the features of the cited Hansen, James, Yoda, and Hubbard references with Herweck in the fashion noted by the Examiner since these references are not in the same or related fields nor are they in the same or related fields as the present invention. Rather, the Examiner has combined bits and pieces of the cited references in a non-obvious fashion based on the teachings of the present application to produce combinations which purportedly meet the recited limitations of the present claims (see pages 8-9 of the Response filed 6/23/2010)." The Examiner respectfully disagrees. The prior art cited above provide relevant and known examples of embodiments of circuits and the like which are known to one of ordinary skill in the art which would be applicable to the immediate Application. In the example of Hansen and the cited electronic remote control circuitry, Hansen provides a known switching scheme of a driver transistor cooperating with a relay. This is *related art*. To quote MPEP 1504.03, ¶15.68: "This modification of the primary reference in light of the secondary reference is proper because the applied references are so related that the appearance of features shown in one would suggest the application of

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those features to the other. See *In re Rosen*, 673 F.2d 388, 213 USPQ 347 (CCPA 1982); *In re Carter*, 673 F.2d 1378, 213 USPQ 625 (CCPA 1982), and *In re Glavas*, 230 F.2d 447, 109 USPQ 50 (CCPA 1956). Further, it is noted that case law has held that one skilled in the art is charged with knowledge of the related art; therefore, the combination of old elements, herein, would have been well within the level of ordinary skill. See *In re Antle*, 444 F.2d 1168, 170 USPQ 285 (CCPA 1961) and *In re Nalbandian*, 661 F.2d 1214, 211 USPQ 782 (CCPA 1982).” Therefore, the Applicant’s argument above is not persuasive to overcome the Examiner’s combination.

9. As to the Applicant’s argument that “Kwoh fails to teach the control means (3) including a clock generating unit (36) for generating clock signals at regular periods,” and “...when a counted value is identical with the preset operating time...compared with the counted value with the preset operating time,” the Examiner respectfully disagrees. The function that the Applicant is trying to claim is much like the basic operation found in a conventional digital alarm clock: the user programs the desired time into the memory of the clock and upon the clock reaching the preprogrammed time stored in the memory of the clock, an alarm functions. This is a well known concept known to one of ordinary skill in the art. This is what is occurring in Kwoh, except that instead of the alarm function being used, the preprogrammed time stored in memory is compared to the clock’s time and upon both the time and the memory content being identical, programming is allowed or denied at that particular time. Thus, the Examiner is not persuaded that Kwoh fails to teach the claimed limitations argued above. Therefore, the rejection of the above claimed limitations with regards the claimed clock function stands.

### ***Conclusion***

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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin C. Lee whose telephone number is (571) 272-2963. The examiner can normally be reached on Mon -Thu 9:00Am-5:30Pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. E./

Examiner, Art Unit 2612

/BENJAMIN C. LEE/

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